BORING NUMBER SIGW-01 PAGE 1 OF 1

CLIENT USEPA PROJECT NAME Blades Groundwater

PROJECT NUMBER 30250.016.003.0207.00 PROJECT LOCATION Blades, DE

SAMPLE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
	P	ale brown well-sorted find SAND, trace silt, dry, loose	
	lc	ale reddish brown well-sorted subangular medium SAND, trace silt, pose; wet at 5 feet	
_	W W	ight grayish brown well-sorted medium subangular SAND, loose, et	
	L lc	ight grayish brown poorly-sorted fine to coarse subangular SAND, pose, wet, grades to light gray	
	13.7 11.0 \ M	dedium gray SILT, slight plasticity, soft, some very fine sand, moist Bottom of hole at 13.0 feet.	7

PAGE 1 OF 2

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CLIENT USEPA PROJECT NAME Blades Groundwater PROJECT NUMBER 30250.016.003.0207.00 PROJECT LOCATION Blades, DE

DEPTH (ft)	SAMPLE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION WELL DIAG	iRAM
0		Pale brown well-so	orted find SAND, trace silt, dry, loose	
5			n well-sorted subangular medium SAND, trace silt,	
-			n well-sorted medium subangular SAND, loose,	
10			n poorly-sorted fine to coarse subangular SAND, to light gray	
15			r, slight plasticity, soft, some very fine sand, moist Y, high plasticity, medium firm, moist	
20		18.0 Medium gray CLA	Y, high plasticity, medium soft, moist	
_		Very light gray wel	sorted fine to coarse subangular SAND, loose, wet	
25 _ _		Very light gray wel Light gray well-sor	ell-sorted subangular medium SAND, trace silt ll-sorted subangular medium SAND, trace silt ted fine-medium subangular sand, loose, wet	
30		plasticity, soft, wet	sorted medium subangular SAND, some silt, slight ted fine to medium SAND, trace silt, loose, wet	
		Light grayish brow loose, wet	n well-sorted fine to medium SAND, trace silt,	
+		Light gray poorly-s	sorted fine to coarse subangular SAND, some ravel, loose, wet	



CLIENT USEPA PROJECT NAME Blades Groundwater PROJECT NUMBER 30250.016.003.0207.00 PROJECT LOCATION Blades, DE GRAPHIC LOG MATERIAL DESCRIPTION WELL DIAGRAM 35 Medium gray poorly-sorted fine to coarse subangular SAND, very dense, trace silt, wet *(continued)* Light gray poorly-sorted fine to coarse subangular SAND, some fine to coarse well-rounded gravel, very dense, wet 40 Very light gray well-sorted fine subangular SAND, loose, wet 45 Bottom of hole at 46.0 feet. ENVIRONMENTAL BH LITHOLOGY LOGS.GPJ ENVIRONMENTAL BH 12/7/18

BORING NUMBER SIGW-03 PAGE 1 OF 1 **CLIENT** USEPA PROJECT NAME Blades Groundwater PROJECT NUMBER 30250.016.003.0207.00 PROJECT LOCATION Blades, DE GRAPHIC LOG MATERIAL DESCRIPTION WELL DIAGRAM 0 Dark brownish gray well-sorted fine subangular SAND, some silt, some subangular fine gravel, trace silt, loose, moist Dark brownish gray well-sorted fine SAND, trace silt, loose, moist Very light brown well-sorted fine SAND, little silt, loose, wet 5 Very pale brown well-sorted medium subangular SAND, trace silt, 10 loose, wet Light reddish yellow well-sorted medium subangular SAND, trace silt, loose, wet Light brownish gray well-sorted medium subangular SAND Dark grayish brown well-sorted medium subangular SAND Light brownish gray well-sorted medium subangular SAND Light reddish yellow well-sorted medium subangular SAND Light yellowish gray well-sorted subangular fine SAND, loose, wet Black poorly-sorted fine to coarse subangular SAND, some silt, slight plasticity, medium dense, no odor Light gray well-sorted fine SAND, some silt, slight plasticity, dense, wet Bottom of hole at 13.0 feet.

ENVIRONMENTAL BH LITHOLOGY LOGS, GPJ ENVIRONMENTAL BH 12/7/18

PAGE 1 OF 2

CLIENT USEPA PROJECT NAME Blades Groundwater

 PROJECT NUMBER
 30250.016.003.0207.00
 PROJECT LOCATION
 Blades, DE

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DEPTH (ft)	SAMPLE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0		ø.: 0.6	Dark brownish gray well-sorted fine subangular SAND, some silt, some subangular fine gravel, trace silt, loose, moist	
		2.0	Dark brownish gray well-sorted fine SAND, trace silt, loose, moist	
			Very light brown well-sorted fine SAND, little silt, loose, wet	$\otimes \otimes$
F -			,	
F -				
5				
L				
† †				
F +		8.8		
F -		117.0.0	Very pale brown well-sorted medium subangular SAND, trace silt,	
10		10.0 7	loose, wet	
-		10.5 <i>[</i> 10.6	Light reddish yellow well-sorted medium subangular SAND, trace silt, loose, wet	
F -		11.5 f	Light brownish gray well-sorted medium subangular SAND	
L		12.0	Dark grayish brown well-sorted medium subangular SAND	$\otimes \otimes$
		13.0	Light brownish gray well-sorted medium subangular SAND	
15			Light reddish yellow well-sorted medium subangular SAND	
			Light yellowish gray well-sorted subangular fine SAND, loose, wet Black poorly-sorted fine to coarse subangular SAND, some silt, slight	
-			plasticity, medium dense, no odor	
 			Light gray well-sorted fine SAND, some silt, slight plasticity, dense, wet	
			Dark gray CLAY, soft, high plasticity, trace very fine sand, moist	
20				
20		20.6		-88 88
5		20.9	Light reddish yellow poorly-sorted very fine to medium subangular SAND, some silt, loose, wet	
			Dark gray CLAY, soft, high plasticity, trace very fine sand, moist	
25		23.6	Light reddish yellow poorly-sorted fine to coarse subangular SAND, some silt, loose, wet	
25		23.8 23.9 24.0	Dark reddish yellow poorly-sorted fine to coarse subangular SAND, some silt, loose, wet	
		[24.0]	Light reddish yellow poorly-sorted fine to coarse subangular SAND, some silt, loose, wet	
			Dark reddish yellow poorly-sorted fine to coarse subangular SAND, some silt, loose, wet	
-		29.6	Light reddish yellow poorly-sorted fine to coarse subangular SAND, some silt, loose, wet	
30		30.0	Light brownish gray well-sorted fine to medium subangular SAND, trace silt, dense, wet	
30			Light brownish gray well-sorted fine to medium subangular SAND, trace silt, , reddish yellow mottling, dense, wet	
		33.6	Light brownish gray well-sorted fine to medium subangular SAND, trace silt, dense, wet	
35			Light gray CLAY, high plasticity, soft, moist	

BORING NUMBER SIGW-04 PAGE 2 OF 2 CLIENT USEPA PROJECT NAME Blades Groundwater PROJECT NUMBER 30250.016.003.0207.00 PROJECT LOCATION Blades, DE GRAPHIC LOG MATERIAL DESCRIPTION WELL DIAGRAM 35 Light gray CLAY, high plasticity, soft, moist (continued) Bottom of hole at 36.0 feet.

ENVIRONMENTAL BH LITHOLOGY LOGS.GPJ ENVIRONMENTAL BH 12/7/18

PAGE 1 OF 1 CLIENT USEPA PROJECT NAME Blades Groundwater PROJECT NUMBER 30250.016.003.0207.00 PROJECT LOCATION Blades, DE GRAPHIC LOG MATERIAL DESCRIPTION WELL DIAGRAM 0 Dark grayish brown poorly-sorted fine to coarse subangular SAND, some silt, some angular fine gravel, loose, moist Light reddish brown well-sorted fine SAND, loose, moist 5 Light gray CLAY, high plasticity, medium firm, wet at 7 feet Light gray well-sorted fine SAND, loose, wet 10 Light gray well-sorted fine SAND, light reddish yellow mottling and very fine dark gray horizontal color lamination, loose, wet; grades to light yellowish red 14.0 Light brown well-sorted fine SAND, loose, wet 15 Light reddish brown poorly-sorted fine to coarse subangular SAND, trace silt, some well-rounded fine gravel, loose, wet Dark gray high plasticity CLAY, soft, moist Bottom of hole at 18.0 feet. ENVIRONMENTAL BH LITHOLOGY LOGS.GPJ ENVIRONMENTAL BH 12/7/18

PAGE 1 OF 2

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CLIENT USEPA PROJECT NAME Blades Groundwater
PROJECT NUMBER 30250.016.003.0207.00 PROJECT LOCATION Blades, DE

SAMPLE NUMBER GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0 - 5	Dark grayish brown poorly-sorted fine to coarse subangular SAND, some silt, some angular fine gravel, loose, moist Light reddish brown well-sorted fine SAND, loose, moist	
	Light gray CLAY, high plasticity, medium firm, wet at 7 feet 8.8 9.0 \ Light gray well-sorted fine SAND, loose, wet Light gray well-sorted fine SAND, light reddish yellow mottling and very fine dark gray horizontal color lamination, loose, wet; grades to	
	light yellowish red 14.0 Light brown well-sorted fine SAND, loose, wet 15.6	
	Light reddish brown poorly-sorted fine to coarse subangular SAND, trace silt, some well-rounded fine gravel, loose, wet 17.6 Dark gray high plasticity CLAY, soft, moist No recovery	
	20.0 Medium gray CLAY, soft, high plasticity, trace fine sand, wet 22.0 No recovery	
25	24.0 Medium gray CLAY, soft, high plasticity, trace fine sand, wet 26.0 Light gray well-sorted fine SAND, some silt, some subrounded fine to	
	coarse gravel, some yellowish red mottling, dense, wet	
	(Continued Next Page)	

PAGE 2 OF 2

ENVIRONMENTAL BH LITHOLOGY LOGS.GPJ ENVIRONMENTAL BH 12/7/18

CLIENT USEPA PROJECT NAME Blades Groundwater PROJECT NUMBER 30250.016.003.0207.00 PROJECT LOCATION Blades, DE GRAPHIC LOG MATERIAL DESCRIPTION WELL DIAGRAM 35 。 () Light gray well-sorted fine SAND, some silt, some subrounded fine to coarse gravel, some yellowish red mottling, dense, wet *(continued)* Medium gray CLAY, soft, high plasticity, wet 40 Bottom of hole at 42.0 feet.

BORING NUMBER SIGW-07 PAGE 1 OF 1 **CLIENT** USEPA PROJECT NAME Blades Groundwater PROJECT NUMBER 30250.016.003.0207.00 PROJECT LOCATION Blades, DE GRAPHIC LOG MATERIAL DESCRIPTION WELL DIAGRAM 0 Dark grayish brown well-sorted fine SAND, some silt, loose, dry Poorly-sorted fine to coarse subangular GRAVEL, some silt, loose, Medium grayish brown fine SAND, some silt, loose Light yellowish brown well-sorted fine SAND, subangular, some silt, loose, moist, wet at 4 feet 5 Very light gray well-sorted fine SAND, subangular, little silt, loose, wet 10 Very light gray well-sorted fine SAND, subangular, little silt, loose, wet, grades to very light brown well-sorted fine to medium SAND, subangular, loose, wet Medium gray high plasticity CLAY, soft, wet Bottom of hole at 13.0 feet. ENVIRONMENTAL BH LITHOLOGY LOGS.GPJ ENVIRONMENTAL BH 12/7/18

PAGE 1 OF 2

WELL DIAGRAM

CLIENT USEPA PROJECT NAME Blades Groundwater

MATERIAL DESCRIPTION

 PROJECT NUMBER
 30250.016.003.0207.00
 PROJECT LOCATION Blades, DE

GRAPHIC LOG

U					Ļ.,
			0.4	Dark grayish brown well-sorted fine SAND, some silt, loose, dry	Ϫ
		::::	0.8_/\	Poorly-sorted fine to coarse subangular GRAVEL, some silt, loose,	(N)
			2.0	dry	\otimes
			L	Medium grayish brown fine SAND, some silt, loose	
				Light yellowish brown well-sorted fine SAND, subangular, some silt,	X
				loose, moist, wet at 4 feet	\otimes
5		.[][]			K
-					W
			72		
				Very light gray well-sorted fine SAND, subangular, little silt, loose, wet	V
-				· · · · · · · · · · · · · · · · · · ·	
	ļ. ķ.				\otimes
10			10.0		X
			10.0	Very light gray well-sorted fine SAND, subangular, little silt, loose,	\rightarrow
				wet, grades to very light brown well-sorted fine to medium SAND,	X
				subangular, loose, wet	
	i ki				K
_		<i></i>	13.0		\
			14.0	Medium gray high plasticity CLAY, soft, wet	K
				Medium gray high plasticity CLAY, soft, wet, grades to medium firm	
15					X/
			16.0		
				Medium gray high plasticity CLAY, soft, wet	\mathbb{Z}
_					X
					X
			19.6		\otimes
20			20.0_	Light reddish brown well-sorted subangular medium SAND, some silt ,	X
		1111	_	Light reddish brown well-sorted subangular medium SAND, some silt,	
				grades to light gray	K
		:1111	22.0		<u> </u>
		1111		Light gray well-sorted fine to medium SAND, subangular, some silt,	
-	· · · · · · · · · · · · · · · · · · ·		23.8	dense, wet	
			23.0	Light reddish yellow well-sorted fine to medium SAND, subangular,	~
25	l like		25.0	some silt, dense, wet	X
	š .	6. 8		Very light gray fine to coarse well-rounded GRAVEL and	\otimes
			26.0	poorly-sorted fine to coarse sand, some silt, dense, wet	X
		. b .	_	Very light gray fine to coarse well-rounded GRAVEL and	\triangleright
	• .	2 6	00.0	poorly-sorted fine to coarse sand, some silt, dense, wet, reddish	K
_	<u>e.</u>	3	28.0	yellow mottling	ß
			<u> </u>	No recovery	K
30			20.0	,	
JU		·હ્યુ•	30.0	Light gray poorly-sorted fine to coarse subangular SAND, fine	-
	6.00 6.00			subangular gravel, some silt, dense, wet	
	• 0-			Sanarigaiar gravor, corrio ont, acrico, wet	
-	}				
	ما ه د ه				: •
	<u>v.</u>		33.8		
	្តី វ	खाः	33.9./\	Light reddish yellow poorly-sorted fine to coarse subangular SAND,	Ī :
35				fine subangular gravel, some silt, dense, wet	/ P .

BORING NUMBER SIGW-08 PAGE 2 OF 2



CLIENT USEPA				PROJECT NAME Blades Groundwater PROJECT LOCATION Blades, DE			
NOJECI N	UNIDER _30230.0	10.003.0207.00	PROJECT LOCATION Blades, DE				
(#)	SAMPLE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM			
35		36.0	Light gray poorly-sorted fine to coarse subangular SAND, fine subangular gravel, some silt, dense, wet, trace shell fragments (continued) Light gray poorly-sorted fine to coarse subangular SAND, fine subangular gravel, some silt, dense, wet, trace shell fragments, dark gray horizontal lamination				
			Dark brownish gray CLAY, soft, high plasticity, wet				
		44.0					
			Bottom of hole at 44.0 feet.				

BORING NUMBER SIGW-09 PAGE 1 OF 1

JENT USEPA		PROJECT NAME Blades Groundwater	
ROJECT NUMBE	R 30250.016.003.0207.00	PROJECT LOCATION Blades, DE	
SAMPLE	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
)	1.0	Dark brownish gray well-sorted very fine SAND, loose, some silt,	
5	6.0	roots, moist Light yellowish brown well-sorted subangular fine SAND, some silt, loose moist	
-	8.0	Light yellowish brown well-sorted subangular fine SAND, some silt, loose moist, grades to well-sorted fine-to medium subangular SAND, little silt, light gray with reddish yellow mottling	
)	0 10.0	Light gray well-sorted fine to medium subangular SAND, little silt, some small subrounded gravel, medium dense, wet	
_	11.6	Medium gray CLAY, very firm, high plasticity, moist	
_	\$	Light gray well-sorted subangular medium SAND, loose, wet Light reddish yellow well-sorted fine SAND, some silt, some	- 7.::1.::1
	14.0	subrounded fine to mediu gravel, trace shell fragments, dense, wet Bottom of hole at 12.0 feet.	

PAGE 1 OF 2

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ad "Naggara" Band Nami

CLIENT USEPA PROJECT NAME Blades Groundwater

 PROJECT NUMBER
 30250.016.003.0207.00
 PROJECT LOCATION Blades, DE

O DEPTH (ft)	SAMPLE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
 5		1.0	Dark brownish gray well-sorted very fine SAND, loose, some silt, roots, moist Light yellowish brown well-sorted subangular fine SAND, some silt, loose moist	
		8.0	Light yellowish brown well-sorted subangular fine SAND, some silt, loose moist, grades to well-sorted fine-to medium subangular SAND, little silt, light gray with reddish yellow mottling Light gray well-sorted fine to medium subangular SAND, little silt, some small subrounded gravel, medium dense, wet Medium gray CLAY, very firm, high plasticity, moist	
 15		11.6 12.0 14.0	Light gray well-sorted subangular medium SAND, loose, wet Light reddish yellow well-sorted fine SAND, some silt, some subrounded fine to mediu gravel, trace shell fragments, dense, wet Light gray very firm high plasticity CLAY, moist	
 20		18.0	No recovery Light gray CLAY, medium firm, high plasticity, wet	
 _ 25		22.0	Medium brown well-sorted very fine to fine SAND, some silt, dense, wet Light brownish red well-sorted very fine to fine SAND, dense, wet	
 30		28.0	Light brownish gray well-sorted fine SAND, subangular, some silt, dense, wet	

BORING NUMBER SIGW-10 PAGE 2 OF 2

NT <u>USEPA</u> JECT NUMBE	R 30250.016.003.0207.0	PROJECT NAME Blades Groundwater PROJECT LOCATION Blades, DE	
SAMPLE	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
		Light brownish gray well-sorted fine SAND, subangular, some silt, dense, wet <i>(continued)</i>	
_	44.0		
		Bottom of hole at 44.0 feet.	

BORING NUMBER SIGW-11 PAGE 1 OF 1

TV	7		**************************************		1	m
\ Y , `	7 /	. .	JI	(H. *	, N
\mathcal{N}	/L	C^{*}	W	West of	a.	w
18888888		A	leri	W.	#####	W.

PROJECT NUMBER 30250.	016.003.0207.00	PROJECT LOCATION Blades, DE	
PROJECT NUMBER 30250.	Dark gray well-sorted 1.0 Dark gray well-sorted 1.8 Medium brownish gray dry Light yellowish brown dry, reddish yellow mo 1.8 Light yellowish brown silt, loose, wet 1.8 Light yellowish brown silt, trace well-rounded 1.8 Light reddish yellow Comedium gray	fine SAND, some silt, roots, loose, dry y well-sorted fine SAND, some silt, roots, loose, well-sorted fine SAND, some silt, roots, loose,	WELL DIAGRAM

PAGE 1 OF 2

 CLIENT
 USEPA
 PROJECT NAME
 Blades Groundwater

 PROJECT NUMBER
 30250.016.003.0207.00
 PROJECT LOCATION
 Blades, DE

SAMPLE NUMBER	GRAPHIC GRAPHI	WELL DIAGRAM
0	Dark gray well-sorted fine SAND, some silt, roots, loose, dry	
_	Medium brownish gray well-sorted fine SAND, some silt, roots, loos	e, 💥 💥
	dry Light yellowish brown well-sorted fine SAND, some silt, roots, loose	- /∭ ∭
_	dry, reddish yellow mottling	
-	6.2	
_	Light yellowish brown well-sorted medium subangular SAND, some silt, loose, wet	
	Light yellowish brown well-sorted medium subangular SAND, some silt, trace well-rounded fine gravel, loose, wet	
_	12.0 \ Light reddish yellow CLAY, soft, high plasticity, wet	
5	Light reddish yellow CLAY, soft, high plasticity, wet, grades to medium gray	
-	17.0	
-	Dark gray well-sorted fine SAND, some silt, loose, dense, wet	
+	Light reddish brown well-sorted fine SAND, some silt, dense, wet	
_	Dark brownish gray CLAY, medium firm, high plasticity, wet	
)	20.0 Medium yellowish brown well-sorted very fine to fine SAND, some clay, moderate plasticity, wet	
-	Very light gray well-sorted fine SAND, some silt, dense, wet	
- - 5	Very light gray CLAY, soft, high plasticity, wet	
	25.6 Reddish yellow well-sorted very fine SAND, some silt, dense, wet	
<u></u>	Very light gray well-sorted fine to medium subangular SAND, dense wet, grades to light yellowish brown	
-	Poorly-sorted fine to coarse subangular SAND, little to some silt, ve	ry

BORING NUMBER SIGW-12 PAGE 2 OF 2



LIENT USEPA	2.040.000.0007.00	PROJECT NAME Blades Groundwater	<u>r</u>
ROJECT NUMBER 3025	0.016.003.0207.00	PROJECT LOCATION Blades, DE	
SAMPLE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
#) WAS NOW	SAND, s Well-sori interbedo 38.0 Light bro subround 41.0 Light yell subround 42.0 A1.1 Very ligh dense A3.0 Reddish Very ligh dense Medium SAND, s Light bro wet Light bro	iome silt, very dense, wet ted very fine SAND, little to some silt, dense, wet, alternation ded light brownish gray and dark gray lamination (continued lownish gray poorly-sorted fine to very coarse subangular to ded SAND, some silt, very dense, wet lowish brown poorly-sorted fine to very coarse subangular ded SAND, some silt, very dense, wet at gray well-sorted subangular medium SAND, little silt, very brown SAND, some clay at gray well-sorted subangular medium SAND, little silt, very dense, subangular gray well-sorted subangular medium SAND, little silt, very dense, subangular gravel brownish gray poorly-sorted fine to coarse subangular gravel ownish gray well-sorted medium subangular SAND, dense, wet some clay, slight plasticity, trace black subangular SAND, dense, ownish gray poorly-sorted fine to coarse subangular SAND, dense, wet Bottom of hole at 46.0 feet.	ng d) to y

PAGE 1 OF 2

 CLIENT
 USEPA
 PROJECT NAME
 Blades Groundwater

 PROJECT NUMBER
 30250.016.003.0207.00
 PROJECT LOCATION
 Blades, DE

DEPTH (#)	SAMPLE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0		(A11)	Dark grayish brown well-sorted fine SAND, some silt, loose, moist	
5		1.2	Light yellowish brown well-sorted fine SAND, little silt, loose, moist, yellowish red mottling	
		7.0	Light yellowish brown well-sorted medium subangular SAND, little silt, loose, wet	
10		7.0	Light gray well-sorted medium SAND, little silt, loose, wet	
15		18.0	Yellowish red well-sorted medium subangular SAND, some silt, wet Dark gray CLAY, medium firm, high plasticity, wet	
		19.6	Dark gray well-sorted medium SAND and high plasticity CLAY, wet	
20		20.0	Yellowish red well-sorted medium subangular SAND, some clay, slight plasticity, wet	
-		22.0	Medium gray well-sorted medium subangular SAND, some clay, slight plasticity, soft, yellowish red mottling, wet Light to medium brownish gray well-sorted medium subangular	
25		23.6	SAND, some clay, slight plasticity, yellowish red mottling, wet Light gray CLAY, medium firm, high plasticity, wet	
-		23.0	Light gray well-sorted medium subangular SAND, dense, wet, some soft clay, trace yellowish red mottling, slight plasticity, grades to light gray well-sorted fine subangular SAND, some silt, loose, wet	
30		31.2	Light gray well-sorted very fine to fine SAND, some silt, wet	
_		33 4	Light brownish gray CLAY, medium firm, high plasticity, wet, grades to dark brownish gray high plasticity CLAY, soft, wet	
35		34.0	Well-sorted subangular medium SAND, some silt, medium dense, light gray with horizontal yellowish red lamination	

BORING NUMBER SIGW-13 PAGE 2 OF 2



OJECT NUMBER	30250.016.003.0207.00	PROJECT NAME Blades Groundwater PROJECT LOCATION Blades, DE	
(#) SAMPLE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
5	37.6	Light gray to light brownish gray poorly-sorted fine to coarse subangular SAND, some poorly-sorted well-rounded fine to coarse gravel, some silt, dense, wet, some reddish yellow mottling, grades to poorly-sorted fine to coarse subangular SAND, some clay, soft, wet (continued)	
0	39.4 33 11 40.0	Dark brownish gray CLAY, medium firm, high plasticity, wet Yellowish red well-sorted fine subangular SAND, some silt, dense Dark brownish gray soft high plasticity CLAY, wet	क्षत्र । स्वत
- - -	42.0	Very light gray well-sorted fine SAND, some silt, dense, wet Light gray to light brownish gray well-sorted subangular fine SAND, some silt, loose, wet, trace yellowish red mottling	
5	45.4	Medium brownish gray well-sorted fine subangular SAND, some clay, slight plasticity, soft	
0		Light yellow well-sorted fine subangular SAND, some silt, dense, wet	
_	[···]];:[52.0	Bottom of hole at 52.0 feet.	···.

BORING NUMBER SIGW-14 CLIENT USEPA PROJECT NAME Blades Groundwater PROJECT NUMBER 30250.016.003.0207.00 PROJECT LOCATION Blades, DE GRAPHIC LOG MATERIAL DESCRIPTION WELL DIAGRAM 0 Very dark grayish brown well-sorted fine subangular SAND, some silt, loose, moist Light yellowish brown well-sorted fine subangular SAND, little silt, loose, moist Very dark grayish brown well-sorted fine subangular SAND, some silt, loose, moist Light grayish brown well-sorted fine subangular SAND, little silt, 5 loose, moist Light yellowish brown to light yellow well-sorted fine subangular SĂNĎ, little silt, loose, moist Light brownish gray well-sorted subangular medium SAND, little silt, loose, reddish yellow mottling 10 10.0 Light brownish gray well-sorted subangular medium SAND, little silt, loose, reddish yellow mottling, grades to poorly-sorted fine to coarse subangular SAND Light brownish gray poorly-sorted fine to coarse subangular SAND, some silt, trace subangular fine to medium gravel, dense, wet 15 Yellowish red CLAY, firm, high plasticity, wet Dark gray CLAY, firm, high plasticity, wet Bottom of hole at 18.0 feet.

ENVIRONMENTAL BH LITHOLOGY LOGS, GPJ ENVIRONMENTAL BH 12/7/18

BORING NUMBER SIGW-15 PAGE 1 OF 1

CLIENT USEPA PROJECT NAME Blades Groundwater

)JECT	NUMBER 3025	0.016.003.0207.0	0 PROJECT LOCATION Blades, DE	
(H)	SAMPLE	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
_		1.2	Dark grayish brown well-sorted fine SAND, some silt, loose, moist Light yellowish brown well-sorted fine SAND, little silt, loose, moist,	
_		5.2	yellowish red mottling Light yellowish brown well-sorted medium subangular SAND, little silt,	
		7.0	Light gray well-sorted medium SAND, little silt, loose, wet	
		13.6 14.0	Yellowish red well-sorted medium subangular SAND, some silt, wet Dark gray CLAY, medium firm, high plasticity, wet Bottom of hole at 13.0 feet.	

BORING NUMBER SIGW-16 PAGE 1 OF 1 **CLIENT** USEPA PROJECT NAME Blades Groundwater PROJECT NUMBER <u>30250.016.003.0207.00</u> PROJECT LOCATION Blades, DE GRAPHIC LOG MATERIAL DESCRIPTION WELL DIAGRAM 0 Very dark brownish gray well-sorted very fine SAND, some silt, moist Light brownish gray well-sorted fine subangular SAND, some silt, loose, moist, some reddish yellow mottling Very dark gray well-sorted fine subangular SAND, some silt, loose, Light yellowish brown well-sorted subangular fine SAND, some silt, 5 Light grayish brown well-sorted fine subangular SAND, some silt and clay, slight plasticity, loose, some yellowish red mottling, wet at 8 feet 10 Light reddish brown poorly-sorted fine to very coarse subangular SAND, little silt, dense, wet Light gray well-sorted fine subangular SAND, little silt, dense, wet 15 Bottom of hole at 18.0 feet.

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PAGE 1 OF 2

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CLIENT USEPA

PROJECT NAME Blades Groundwater

PROJECT NUMBER 30250.016.003.0207.00

PROJECT LOCATION Blades, DE

PROJECT	NOMBEK _	30250.016.003.02	07.00 PROJECT LOCATION Blades, DE	
DEPTH (ft)	SAMPLE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0			Very dark brownish gray well-sorted very fine SAND, some silt, moist	
-			Light brownish gray well-sorted fine subangular SAND, some silt,	
			loose, moist, some reddish yellow mottling Very dark gray well-sorted fine subangular SAND, some silt, loose,	
			moist Light yellowish brown well-sorted subangular fine SAND, some silt,	
5			loose, moist	
_				
_				
+			3.0 Light grayish brown well-sorted fine subangular SAND, some silt and	
			clay, slight plasticity, loose, some yellowish red mottling, wet at 8 feet	
10				
-			10.0	
-		· · · · · · · · · · · · · · · · · · ·	12.0 Light reddish brown poorly-sorted fine to very coarse subangular	
-		**************************************	SAND, little silt, dense, wet	
15			Light gray well-sorted fine subangular SAND, little silt, dense, wet Light yellowish brown poorly-sorted fine to coarse subangular SAND,	
			5.4 some silt, dense, wet Light gray well-sorted fine subangular SAND, little silt, dense, wet	
			Very pale brown well-sorted medium subangular SAND, trace silt,	
_		• • •	dense, wet	
_			Pale brown poorly-sorted fine to very coarse subangular SAND, little silt, trace well-rounded fine gravel, dense, wet	
20		***	19.6 Light gray CLAY, high plasticity, firm, moist	
-			Pale brown poorly-sorted fine to very coarse subangular SAND, little silt. trace well-rounded fine gravel, dense, wet	
-			22.0.1 Pale brown poorly-sorted fine to very coarse subangular SAND, little	
-			silt, trace well-rounded fine gravel, dense, wet, increasing clay content with depth, grades to soft, low plasticity CLAY with yellowish	
25			red mottling Light gray well-sorted fine subangular SAND, some clay, slight	
			25.6 plasticity, trace well-rounded fine gravel, wet	
			silt, some well-rounded fine to medium gravel, dense, wet, horizontal	
			27.6 yellowish red color laminations 28.0 Light gray to yellowish red well-sorted fine SAND and soft CLAY,	
			moderate plasticity, wet	
30			Well-sorted fine subangular SAND, little silt, trace well-rounded gravel, dense, wet	>>>
_			Light brownish gray well-sorted medium SAND, trace silt, loose, dense, wet	
-			Light brownish gray well-sorted fine SAND, subangular, little clay,	
-			slight plasticity, dense, wet, light reddish yellow mottling Light gray well-sorted medium SAND, subangular, trace silt, loose,	
4		12	wet	
35			(Continued Next Page)	[·.::[]·.::

PAGE 2 OF 2



CLIENT USEPA PROJECT NAME Blades Groundwater PROJECT NUMBER 30250.016.003.0207.00 PROJECT LOCATION Blades, DE GRAPHIC LOG MATERIAL DESCRIPTION WELL DIAGRAM 35 Light gray well-sorted fine to coarse SAND, some silt, some subrounded fine to medium gravel, dense, wet (continued) Light gray poorly-sorted fine to coarse SAND, some silt, some subrounded fine to medium gravel, dense, wet, increasing gravel content with depth, horizontal reddish yellow lamination Light gray well-sorted fine to medium subangular SAND, some silt, some fine to medium subrounded gravel, horizontal reddish yellow 40 color lamination, dense, wet Light gray well-sorted fine to medium subangular SAND, some silt, some fine to medium subrounded gravel, dense, wet Very light gray well-sorted medium subangular SAND, some silt, dense, wet Medium gray poorly-sorted fine to coarse subangular SAND, some silt, some fine to coarse subangular gravel, yellowish red mottling, dense, wet 45 Dark gray CLAY, soft, high plasticity, wet

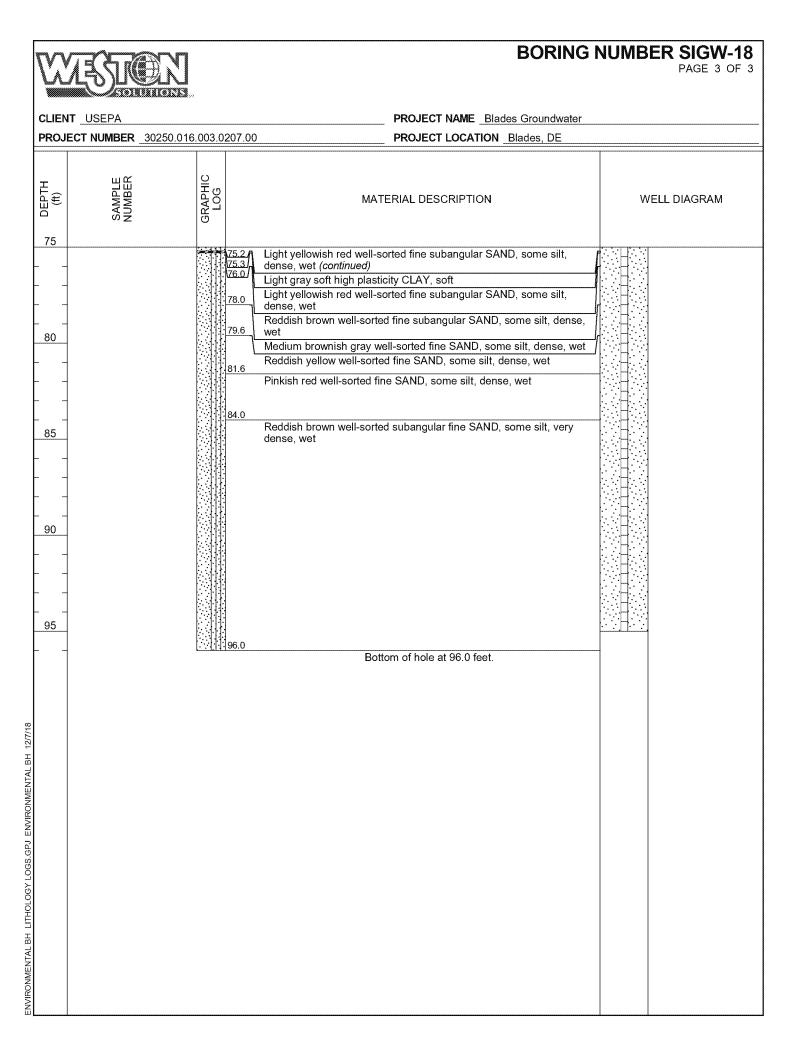
Bottom of hole at 46.0 feet.



PAGE 1 OF 3 CLIENT USEPA PROJECT NAME Blades Groundwater PROJECT LOCATION Blades, DE PROJECT NUMBER 30250.016.003.0207.00 GRAPHIC LOG SAMPLE NUMBER MATERIAL DESCRIPTION WELL DIAGRAM 0 Black well-sorted fine SAND, subangular, some silt, some coarse BDE-SO-01 angular gravel, moist, loose Yellowish brown well-sorted fine SAND, little silt, loose, moist, wet at 5 BDE-SO-04 Light gray well-sorted fine subangular SAND, some silt, loose, reddish yellow mottling, wet See log for groundwater monitoring well DMW-2 10 15 20 ENVIRONMENTAL BH LITHOLOGY LOGS.GPJ ENVIRONMENTAL BH 12/7/18 25 30 35

BORING NUMBER SIGW-18 PAGE 2 OF 3

CLIENT USEPA		PROJECT NAME Blades Groundwater	
PROJECT NUMBER _30250.016.003.0207.00		PROJECT LOCATION Blades, DE	
DEPTH (ft) (sample NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
35	42.0 Poorly	r-sorted fine to coarse subangular SAND, some well-rounded	
45	yellow 45.0	medium gravel, little silt, dense; light gray, dark gray, and rish red color lamination gray CLAY, high plasticity, soft, wet	
55	57.8 58.04 Yellow	gray CLAY, high plasticity, soft, wet, trace wood fibers	
60 100 1	60.0 No rec	plasticity, wet covery m reddish gray, well-sorted fine to medium subangular SAND, silt, wet	
70	68.0 Brown wet 69.8 Light of the some 73.2 74.0 Yellow	gray well-sorted fine to medium SAND, some silt, dense, gray well-sorted fine to medium SAND, some silt, dense, wet hish yellow well-sorted fine to medium SAND, some silt, dense, prownish gray well-sorted fine to medium subangular SAND, silt, dense, wet wish red soft CLAY and fine to medium subangular SAND, rate plasticity, wet	



BORING NUMBER SIGW-19 PAGE 1 OF 1 CLIENT USEPA PROJECT NAME Blades Groundwater PROJECT NUMBER 30250.016.003.0207.00 PROJECT LOCATION Blades, DE GRAPHIC LOG MATERIAL DESCRIPTION WELL DIAGRAM 0 Medium grayish brown well-sorted fine subangular SAND, some silt, some subangular fine gravel, loose, moist Reddish brown well-sorted fine subangular SAND, loose, moist Reddish brown well-sorted fine subangular SAND, loose, moist, grades to yellowish brown Light yellowish brown well-sorted subangular fine SAND, little silt, 5 loose, moist 8.0 Very light gray well-sorted fine SAND, subangular, trace silt, loose, moist, reddish yellow mottling 10 Very light gray well-sorted fine SAND, subangular, trace silt, loose, moist, reddish yellow mottling, grades to subangular medium SAND, trace silt, loose, wet at 11 feet 14.0 Light to medium gray poorly-sorted fine to coarse subangular SAND, 15 some silt, some fine to coarse subrounded gravel, firm, wet, trace reddish yellow mottling Light gray poorly-sorted fine to coarse subangular SAND, little silt, 20 Light gray well-sorted fine subangular SAND, trace silt, dense, wet Bottom of hole at 22.0 feet.

ENVIRONMENTAL BH LITHOLOGY LOGS.GPJ ENVIRONMENTAL BH 12/7/18

PAGE 1 OF 3

CLIENT USEPA PROJECT NAME Blades Groundwater

PROJECT NUMBER 30250.016.003.0207.00 PROJECT LOCATION Blades, DE

DEPTH (ft)	SAMPLE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
	BDE-SO-02		Dark gray well-sorted fine SAND, some silt, moist, loose	
5		3.0	Reddish yellow well-sorted fine SAND, some silt, moist, loose, subangular, wet at 10 feet	
10	BDE-SO-03	10.0	Light brownish gray well-sorted fine SAND, some silt, loose, subangular, faint reddish yellow mottling	
15		15.2	Light brownish gray poorly-sorted fine to coarse subangular SAND and fine to coarse subangular GRAVEL, some silt, loose, wet Light gray well-sorted fine SAND, loose, wet	
20		22.0	Light brownish gray fine to coarse subangular SAND, little silt, dense, wet Light yellowish brown fine to coarse subangular SAND, some fine to coarse subrounded gravel, some silt, dense, wet	
25		26.0	Light gray well-sorted fine subangular SAND, some clay, slight	
30		28.0	plasticity, soft, wet No recovery	
		32.0	Light brownish gray poorly-sorted fine to coarse subangular SAND, some subangular fine gravel, some silt, dense, wet Light brownish gray well-sorted subangular fine SAND, little silt, dense, wet	
35		34.0	(Continued Next Page)	



CLIENT USEPA PROJECT NAME Blades Groundwater PROJECT NUMBER 30250.016.003.0207.00 PROJECT LOCATION Blades, DE GRAPHIC LOG MATERIAL DESCRIPTION WELL DIAGRAM 35 Light brownish gray well-sorted fine to medium subangular SAND, some silt, trace well-rounded fine gravel, dense, wet, 1/8 inch thick reddish yellow color lamination at 35.5 feet (continued) Dark gray to light yellowish brown poorly-sorted fine to coarse subangular to angular SAND, some silt, trace shell fragments, very Light brownish gray poorly-sorted fine to coarse subangular SAND, 40 some well-rounded fine to coarse gravel, some silt, dense, wet Light gray well-sorted fine subangular SAND, dense, wet Light brownish gray poorly-sorted fine to coarse subangular SAND, some well-rounded fine to coarse gravel, some silt, dense, wet Light gray well-sorted fine subangular SAND, dense, wet Yellow well-sorted fine to medium subangular SAND, dense, wet 45 Reddish yellow to black firm CLAY, high plasticity, wet Light yellowish gray poorly-sorted fine to very coarse subangular SAND, little silt, dense, wet Dark gray very firm CLAY, high plasticity, wet 50 55 60 ENVIRONMENTAL BH LITHOLOGY LOGS, GPJ ENVIRONMENTAL BH Reddish yellow high plasticity CLAY, firm, little fine subangular SAND, wet Yellowish red well-sorted medium SAND, subangular, some silt, dense, wet 65 70 Light brownish yellow soft high plasticity CLAY, wet No recovery, mud rotary circulation loss Dark gray soft high plasticity CLAY, some very fine sand, wet

BORING NUMBER SIGW-20 PAGE 3 OF 3 CLIENT USEPA PROJECT NAME Blades Groundwater PROJECT NUMBER 30250.016.003.0207.00 PROJECT LOCATION Blades, DE GRAPHIC LOG MATERIAL DESCRIPTION WELL DIAGRAM 75 Dark gray soft high plasticity CLAY, some very fine sand, wet *(continued)* Bottom of hole at 76.0 feet.

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